# NON-INVASIVE DIAGNOSTIC AND PROGNOSTIC ASSAYS FOR EARLY STAGE LUNG CANCER

## SUMMARY

The National Cancer Institute's Laboratory of Human Carcinogenesis seeks partners interested in collaborative research to co-develop non-invasive urinary biomarkers that are highly predictive of Non-small Cell Lung Cancer status and survival.

## REFERENCE NUMBER

E-121-2013

## PRODUCT TYPE

- Diagnostics
- Research Materials

## KEYWORDS

- Non-small Cell Lung Cancer

## COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

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## DESCRIPTION OF TECHNOLOGY

The present invention from the National Cancer Institute's Laboratory of Human Carcinogenesis provides a unique non-invasive diagnostic to detect early stage lung cancer and predict patient survival through a simple assay utilizing urine samples. Urine samples minimize patient discomfort, unlike current early detection methods that are highly invasive, such as a biopsy or bronchoscopy, or utilize expensive computer tomography (CT) scans that expose patients to harmful radiation. The method is superior to CT in that the sensitivity of low dose CT scans is high, the specificity is low, resulting in high false positive rates. Utilizing metabolic profiling of urine samples obtained from 1,005 people, the scientists have developed and validated this unique metabolite profile that diagnoses early stage lung cancer and predicts patient survival with a high accuracy.

## POTENTIAL COMMERCIAL APPLICATIONS

Diagnostic test for early stage lung cancer, prognostic test for patient survival, and a method to help physicians make informed treatment decisions.

## COMPETITIVE ADVANTAGES

Urinary patient samples - no utilization of needles, invasive surgery, or claustrophobic computed tomography (CT) scans

## INVENTOR(S)

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## DEVELOPMENT STAGE

- Pre-clinical (in vivo)

## PUBLICATIONS

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## PATENT STATUS

- **U.S. Filed:** US Patent Application No. 61/845,055 filed 11 July 2013
- **Foreign Filed:** International PCT Application PCT/US14/46294 filed 11 July 2014

## RELATED TECHNOLOGIES

- E-248-2002

## THERAPEUTIC AREA

- Cancer/Neoplasm